

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for preparing tertiary butanol ~~by~~
comprising reacting an isobutene-containing C₄-hydrocarbon stream with water over a solid
acidic catalyst, wherein

~~characterized in that~~

the isobutene-containing C₄-hydrocarbon stream and water are reacted with addition
of TBA in one or more reactor/s and the mixture obtained is fed into a reactive distillation
column below the reaction zone.

Claim 2 (Currently Amended): The process as claimed in claim 1, wherein

~~characterized in that~~

an isobutene-containing C₄-hydrocarbon stream, water and tert-butanol are fed into
the reactive distillation column.

Claim 3 (Currently Amended): The process as claimed in claim 1 ~~or 2~~, wherein

~~characterized in that~~

an isobutene-containing C₄-hydrocarbon stream is firstly reacted with water over an
acidic solid catalyst to a conversion of isobutene into tert-butanol of from 65 to 97% and the
mixture obtained in this way is fed into the reactive distillation column.

Claim 4 (Currently Amended): The process as claimed in ~~any of claims 1 to 3~~ claim
1, wherein

~~characterized in that~~

a C₄-hydrocarbon stream having an isobutene content of less than 700 ppm by mass is taken off at the top of the reactive distillation column.

Claim 5 (Currently Amended): The process as claimed in ~~any of claims 1 to 4~~ claim 1, wherein

~~characterized in that~~

the mixture obtained at the top of the reactive distillation column is separated into an aqueous phase and an organic phase and the aqueous phase is returned to the reactive distillation column.

Claim 6 (Currently Amended): The process as claimed in ~~any of claims 1 to 5~~ claim 1, wherein

~~characterized in that~~

the reactive distillation column is configured as a distillation column provided with one or more external reactors in which the catalyst is present and through which a secondary stream passes.

Claim 7 (Currently Amended): The process as claimed in ~~any of claims 1 to 5~~ claim 1, wherein

~~characterized in that~~

the reactive distillation column is configured as a distillation column provided with one or more catalyst-containing reactors integrated into the distillation section.

Claim 8 (Currently Amended): The process as claimed in ~~any of claims 1 to 7~~ claim 1, wherein

~~characterized in that~~

a homogeneous mixture saturated with water is fed into the reactive distillation column.

Claim 9 (Currently Amended): The process as claimed in ~~any of claims 1 to 7~~ claim 1, wherein

~~characterized in that~~

a heterogeneous mixture is fed into the reactive distillation column.

Claim 10 (Currently Amended): The process as claimed in ~~any of claims 1 to 9~~ claim 1, wherein

~~characterized in that~~

the isobutene-containing C₄-hydrocarbon stream and water are fed in at different points on the reactive distillation column.